

Reproductive habitat survey for the Calvert's Emerald (*Somatochlora calverti*)

This is a survey designed to inform a chapter of my master's thesis work at Texas Tech University conducting a review on the current thought surrounding reproductive habitat use in the Calvert's Emerald (*Somatochlora calverti*).

Please answer as accurately as you are able and feel free to reach out to me with any questions or concerns: **Hannah.Girgente@ttu.edu**

* Indicates required question

1. Email *

2. What is your name? *

3. Have you ever seen *Somatochlora calverti* in the field? *

Mark only one oval.

☐ Yes

☐ No, but I have seen other *Somatochlora* in the region that *S. calverti* occurs
Skip to question 17

☐ No or unsure *Skip to question 20*

Personal observations of *Somatochlora calverti*

Please answer as accurately as you can recall. Feel free to skip a question you do not feel you can provide information on.

4. About how many times and in what county/counties have you seen *S. calverti* (if you have seen *S. calverti* outside FL please indicate that, as well)?

5. In just a few descriptors, how would you describe the habitat in which you saw this species?

6. Have you ever seen a female? Did you notice if she had an egg mass attached to the end of her abdomen?

Mark only one oval.

- ☐ Yes, but no egg mass
- ☐ Yes, but I cannot say certainly whether or not an egg mass was present
- ☐ Yes, and I know for a fact there was an egg mass
- ☐ I have not seen a female that I can recall

7. Have you ever seen mating or oviposition in *S. calverti*? (NOTE: oviposition is the laying of eggs by a female dragonfly, usually recognized by some type of dipping behavior or a behavior that appears as if she is inserting her abdomen into substrate.)

Mark only one oval.

- ☐ I have seen mating only *Skip to question 8*
- ☐ I have seen oviposition only *Skip to question 14*
- ☐ I have seen both mating and oviposition
- ☐ No or unsure *Skip to question 20*

Mating behavior of *S. calverti*

Please answer as accurately as you can recall. Feel free to skip a question you do not feel you can provide information on.

8. If you have seen a male *S. calverti* patrolling a water source, how would you describe the habitat of that water source?

9. How would you describe the habitat in which you saw mating occur? Were you near a water source when you witnessed mating?

10. Approximately how long did mating last (or how long did you observe it)?

11. If you were present when copulation ceased, did you notice differences in where the male vs. the female generally went?

Mark only one oval.

- ☐ Yes
- ☐ No
- ☐ I was not present for the end of copulation

12. If you answered yes to the previous question, please describe any discrepancies between male/female behavior and the general direction of travel post-copulation that you noticed.

13. Please answer this question only if you have **not** witnessed oviposition (egg laying).

Mark only one oval.

☐

Mating only

Skip to question 20

Personal observations of *S. calverti* oviposition

Please answer as accurately as you can recall. Feel free to skip a question you do not feel you can provide information on.

14. Can you describe the habitat, in your own words, where you saw oviposition?

15. Can you describe her oviposition behavior (i.e., was she continuously moving while flicking her abdomen? was she perched and inserting her abdomen into substrate? etc.)?

16. What kind of substrate was she ovipositing on?

Observations of other *Somatochlora* in the north Florida region

Please answer as accurately as you can recall. Feel free to skip a question you do not feel you can provide information on.

17. Do you think the habitat for *S. calverti* nymphs are any more habitat-specific than other *Somatochlora* species that occur in the region?

Mark only one oval.

- ☐ Yes
- ☐ No
- ☐ Maybe
- ☐ I think they are equally specific

18. Do you think *S. calverti* nymphs use the same habitat as other co-occurring *Somatochlora* nymphs?

Mark only one oval.

- ☐ Yes, they all use the same habitat
- ☐ Yes, they all use the same habitat, but *S. calverti* additionally uses habitat that is even more specific than other *Somatochlora*
- ☐ No, they generally do not use the same habitat

19. Any knowledge of co-occurring *Somatochlora* in the region that you think might be relevant?

Your definition of reproductive habitat for *Somatochlora calverti*.

Please read before answering the remaining prompts:

Most peer-reviewed literature describes the likely habitat of *S. calverti* as "boggy forest seepages with wet sand/mud or algae in shallow water" (Needham et al. 2001; Dunkle, 2000; Huggins & Brigham, 1982) or "small, sandy streams" (Paulson, 2011).

20. What, if anything, would you add/change/remove about the above definitions to more clearly capture its potential specificity/rarity?

21. If you have seen *S. calverti* before, have you uploaded your observations to iNaturalist or Odonata Central?

Mark only one oval.

☐ Yes

☐ No

22. If you answered no to the previous question, would you be willing to share your locality data (date/location)?

23. Any comments/experiences you would like to share that you felt did not fit within these questions?

24. Would you be willing to answer any further questions that may arise based on your response?

Mark only one oval.

☐ Yes

☐ No

25. Feel free to reach out to me with questions/concerns: **Hannah.Girgente@ttu.edu**

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